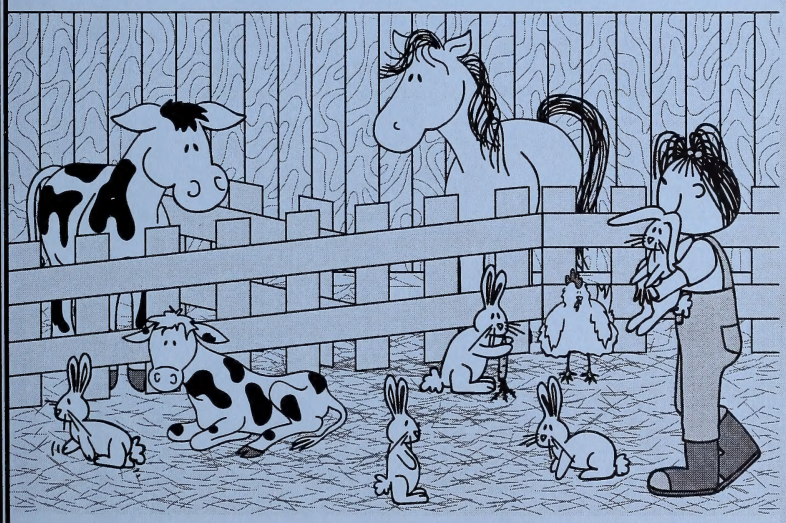
AL.3.2003-183
c.2 v.8 booklet A
University of Alberta Library
0 1620 3681943 9

GRADE THREE MATHEMATICS: MODULE 8

SPACE AND SHAPE

Home Instructor's Guide: Days 1–9
and
Assignment Booklet 8A



Learning Technologies Branch

Alberta LEARNING

Grade Three Mathematics
Module 8: Space and Shape
Home Instructor's Guide: Days 1–9 and Assignment Booklet 8A
Learning Technologies Branch
ISBN 0-7741-2322-2

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	

You may find the following Internet sites useful:

- Alberta Learning, **http://www.learning.gov.ab.ca**
- Learning Technologies Branch, **http://www.learning.gov.ab.ca/ltb**
- Learning Resources Centre, **http://www.lrc.learning.gov.ab.ca**

The use of the Internet is optional. Exploring the electronic information superhighway can be educational and entertaining. However, be aware that these computer networks are not censored. Students may unintentionally or purposely find articles on the Internet that may be offensive or inappropriate. As well, the sources of information are not always cited and the content may not be accurate. Therefore, students may wish to confirm facts with a second source.

ALL RIGHTS RESERVED

Copyright © 2003, the Crown in Right of Alberta, as represented by the Minister of Learning, Alberta Learning, 10155 – 102 Street, Edmonton, Alberta T5J 4L5. All rights reserved. Additional copies may be obtained from the Learning Resources Centre.

No part of this courseware may be reproduced in any form, including photocopying (unless otherwise indicated), without the written permission of Alberta Learning.

Every effort has been made both to provide proper acknowledgement of the original source and to comply with copyright law. If cases are identified where this effort has been unsuccessful, please notify Alberta Learning so that appropriate corrective action can be taken.

IT IS STRICTLY PROHIBITED TO COPY ANY PART OF THESE MATERIALS UNDER THE TERMS OF A LICENCE FROM A COLLECTIVE OR A LICENSING BODY.

UNIVERSITY LIBRARY
UNIVERSITY OF ALBERTA

MODULE 8: SPACE AND SHAPE

INTRODUCTION

In this module, the focus is on developing an understanding of geometric shapes and solids and the relationships between them by describing, comparing, and sorting them. The student will examine geometric solids as well as common household objects that resemble them. The student will come to realize that geometric shapes and solids are part of the world he or she lives in.

To reinforce understanding of geometric shapes and solids throughout the unit, together with the student, look for shapes and solids in the home and in the environment. Talk about the shapes of the solids you see—count the edges and vertices (corners), and determine the shape(s) of the faces.

In Days 13, 14, and 15, the student will learn about directions and how they relate to maps, how to graph points on number lines, and how to trace a path following a set of directions. These lessons help the student develop the ability to visualize things in space. The student will learn how to find and describe locations.

Reinforce these concepts by playing direction games and by tracing paths on maps. Take the student on an orienteering adventure to practise skills using location and direction.

Days 16 and 17 focus on temperatures and how temperature relates to everyday situations. Challenge the student to estimate the indoor and outdoor temperatures on a daily basis. Discuss the activities the student can comfortably participate in at those temperatures.

DAILY SUMMARY

DAY 1: Before beginning today's lessons, ensure you have a set of geometric solids (cone, cube, square-based pyramid, sphere, cylinder, triangular prism, and rectangular prism with two square faces). The geometric solids could be a purchased set. In Module 1 of this course, a set of geometric solids was recommended. The solids can also be found in the home or made ahead of time using the nets in the Appendix of the Student Module Booklet. When making the nets from the Appendix, do not cut along the dotted lines. The dotted lines are the fold lines. There is no net for the sphere. Use any round object for this solid—balls, marbles, round candies, and so on. Refer to the beginning of the Student Module Booklet for a complete list of the required materials for this module.

Today is a review of geometric solids and shapes from previous study. Ensure the student knows the shapes and can identify the solids. You will begin with the square-based pyramid, a sphere, the cube, a cone and a cylinder. Then use the rectangular and triangular prisms when prisms are introduced in Lesson 3.

Review with the student what two-dimensional (2-D) shapes and three-dimensional (3-D) objects are. Ensure the student understands that 2-D shapes can be measured in two ways—length and width, and a 3-D object can be measured in three ways—length, width, and depth.

DAY 2: The student reviews the terms *edges*, *faces*, and *vertices* and identifies them on each of the seven featured solids (cone, cube, square-based pyramid, sphere, cylinder, triangular prism, rectangular prism).

Review that a prism is a solid shape that has two ends or bases that are the same and at least three rectangles for its faces.

You will be timing your student for a 2-minute multiplication number facts practice.

There is no assignment in the Assignment Booklet for Day 2.

DAY 3: The student identifies and names faces of 3-D objects using appropriate 2-D names.

Encourage the student to play the Yes-No game and pose riddles about the solids with friends and family members.

DAY 4: The focus is on identifying everyday objects that look like geometric solids and naming their faces.

DAY 5: The student learns how to describe and name prisms by the shape of the base.

Be sure the triangular prism, rectangular prism (with square faces), and rectangular prism (with all rectangular faces) are ready for the student to use today. These may be part of your geometric set or they can be made from the nets in the Appendix prior to the lesson.

Also be sure the square-based pyramid, rectangular-based pyramid, and triangular-based pyramid are assembled and ready for the student to use today.

DAY 6: The focus is on describing and naming pyramids by the shape of the base. The student will also build two types of pyramids and describe how they are similar and different. Have modelling clay and drinking straws ready before beginning today's work.

DAY 7: In today's lessons, the student learns that a rectangular solid has more than one net. The student will practise making nets for rectangular prisms. You will need to provide your student with at least three empty boxes to cut apart. These could be a tissue box, a cracker box, a jelly-powder box, or a toothpaste box. Make sure that when the boxes are cut to make the nets that each face is kept whole. When the boxes are manufactured, the faces are often designed in two parts to overlap, and the nets are more complex. Students need to work with simple nets that keep each face intact.

DAY 8: The lesson on nets continues today. The student learns that a cube has more than one net and will make nets for cubes. You will be timing the student for a multiplication math facts practice.

There is no assignment in the Assignment Booklet for Day 8.

DAY 9: The concepts taught to this point in the Student Module Booklet are reviewed today.

After the student has completed today's activities and assignments, direct him or her to the Student's Checklist and Student's Comments. The student may work on these alone or with your help. Complete the Home Instructor's Checklist and Home Instructor's Comments.

Submit Assignment Booklet 8A to the teacher.

Digitized by the Internet Archive
in 2016

https://archive.org/details/gradethreemathem88albe

ASSIGNMENT BOOKLET 8A

Grade Three Mathematics
Module 8: Days 1–9

Home Instructor's Comments and Questions

_____
Home Instructor's Signature

FOR HOME INSTRUCTOR USE
(if label is missing or incorrect)

Student File Number:

_____

Date Submitted:

_____

Apply Module Label Here

Name

Address

Postal Code

Please verify that preprinted label is for correct course and module.

FOR SCHOOL USE ONLY

Assigned Teacher:

_____

Date Assignment Received:

_____

Grading:

_____

Additional Information:

_____

_____

_____

_____

_____

_____

_____

_____

Teacher's Comments

_____
Teacher's Signature

Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.

INSTRUCTIONS FOR SENDING IN THIS DISTANCE LEARNING ASSIGNMENT BOOKLET

When you register for distance learning courses, you are expected to send in Assignment Booklets for corrections regularly. Try to send each Assignment Booklet as soon as you have completed it. Before sending your Assignment Booklet, please check the following:

- Are all the assignments completed? If not, explain why.
- Has your work been reread to be sure the spelling and details are correct?
- Is the record form filled out and the correct module label attached?

MAILING

1. Postage Regulations

Do **not** enclose letters with Assignment Booklets.

Send all letters in a separate envelope.

2. Postage Rates

Take your Assignment Booklet to the post office and have it weighed. Attach enough postage and seal the envelope. Assignment Booklets will travel faster if correct postage is used and if they are in large envelopes that are no more than two centimetres thick.

FAXING

1. Assignment Booklets may be faxed. Contact your teacher for the fax number.

2. All faxing costs are the responsibility of the sender.

E-MAILING

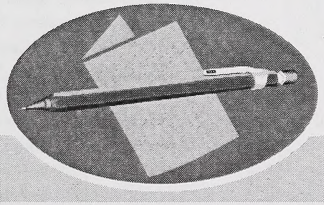
Assignment Booklets may be e-mailed. Contact your teacher for the e-mail address.

Grade Three Mathematics

Module 8

Space and Shape

Assignment Booklet 8A



Learning Technologies Branch

Alberta LEARNING

Grade Three Mathematics
Module 8: Space and Shape
Assignment Booklet 8A
Learning Technologies Branch

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	

You may find the following Internet sites useful:

- Alberta Learning, **http://www.learning.gov.ab.ca**
- Learning Technologies Branch, **http://www.learning.gov.ab.ca/ltb**
- Learning Resources Centre, **http://www.lrc.learning.gov.ab.ca**

The use of the Internet is optional. Exploring the electronic information superhighway can be educational and entertaining. However, be aware that these computer networks are not censored. Students may unintentionally or purposely find articles on the Internet that may be offensive or inappropriate. As well, the sources of information are not always cited and the content may not be accurate. Therefore, students may wish to confirm facts with a second source.

Copyright © 2003, the Crown in Right of Alberta, as represented by the Minister of Learning, Alberta Learning, 10155 – 102 Street, Edmonton, Alberta T5J 4L5. Print copies may be obtained from the Learning Resources Centre. Digital copies are available to registered Alberta educators at the Tools4Teachers website: **http://www.tools4teachers.ab.ca**

Every effort has been made both to provide proper acknowledgement of the original source and to comply with copyright law. If cases are identified where this effort has been unsuccessful, please notify Alberta Learning so that appropriate corrective action can be taken.

1. Journal Entry

What shapes and solids do you find most interesting? Why?

_____

_____

_____

_____

_____

2. Draw the solid named in each box. Use your geometric solids to help you.

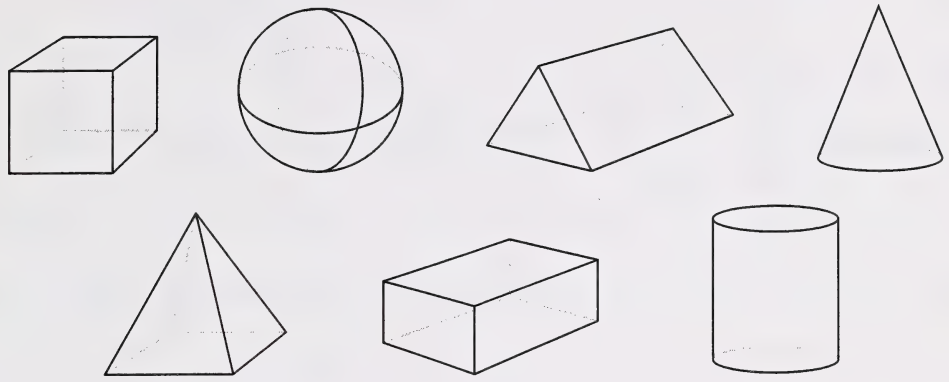
cylinder	**sphere**

cube

cone

pyramid

1. Write the names of one or more of these solids to answer the following riddles.



a. I have only one square face. _____

b. I have only one vertex. _____

c. I have two edges. _____

d. I have three rectangular faces. _____

e. We have eight vertices. _____,

_____

f. I don't have a face. _____

g. I have nine edges. _____

h. I have six square faces. _____

i. We have no vertices. _____,

_____

j. I have only one face. _____

k. I have six rectangular faces. _____

l. I have eight edges. _____

2. Make up two riddles of your own about two solids. Then answer each.

- _____

_____

_____

Answer: _____

- _____

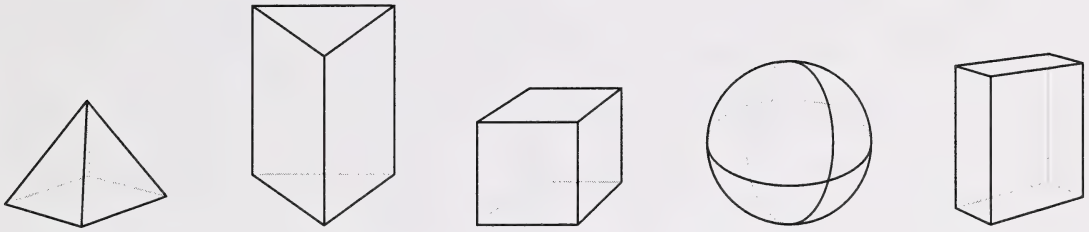
_____

_____

Answer: _____

IDENTIFYING SOLIDS AND FACES

Look at the pictures of the solids.



Beside each of the following faces, write the name of the solid or solids with that face.

1.

2.

3.

4. Which solid has no faces? _____

5. Draw all the faces of a square-based pyramid in the space below.

1. Journal Entry

What have you learned about prisms?

_____

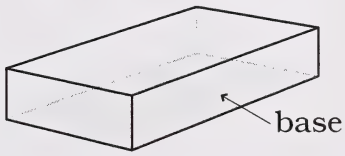
_____

_____

_____

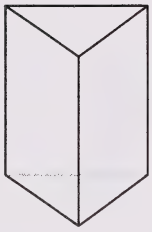
_____

For each of the following, identify the shape of the base and name the prism.



2. a. The shape of the base is a _____.

b. The name of the prism is _____.



3. a. The shape of the base is a _____.

   b. The name of the prism is _____.

4. a. The shape of the base is a _____.

   b. The name of the prism is _____.

1. Journal Entry

What have you learned about pyramids?

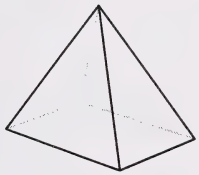
_____

_____

_____

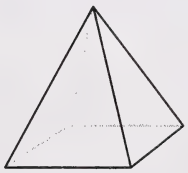
_____

For each of the following, identify the shape of the base and name the pyramid.



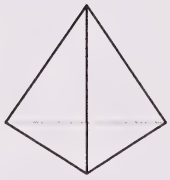
2. a. The shape of the base is a _____.

b. The name of the pyramid is _____.



3. a. The shape of the base is a _____.

b. The name of the pyramid is _____.



4. a. The shape of the base is a _____.

   b. The name of the pyramid is _____.

5. a. How are the three pyramids the same? _____

   _____

   _____

   b. How are they different? _____

   _____

   _____

6. a. How are pyramids different from prisms?

   _____

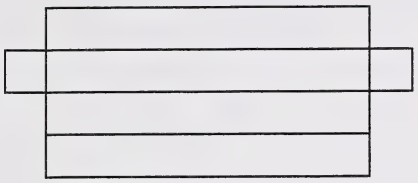
   _____

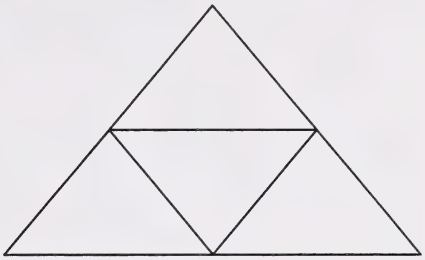
   b. How are pyramids the same as prisms?

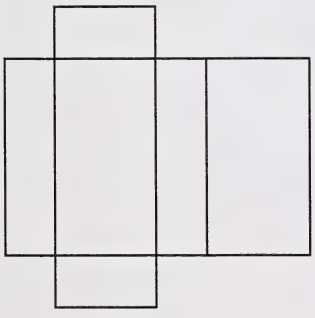
   _____

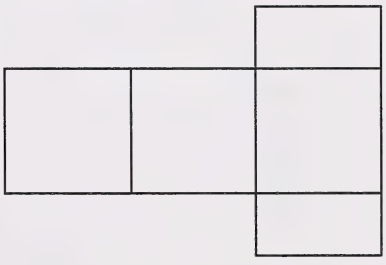
   _____

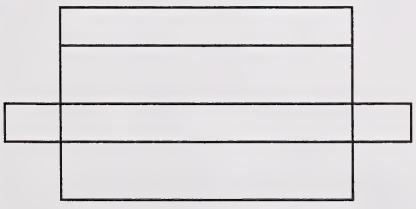
Use a blue crayon or marker to colour the nets that can be made into rectangular prisms. Explain why each net can or cannot be made into a rectangular prism.

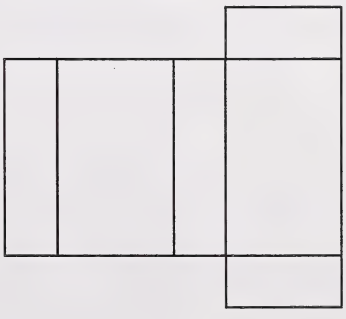
1. 

2. 

3. 

4. 

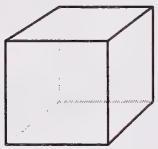
5. 

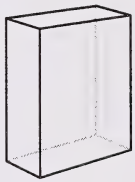
6. 

1. Journal Entry

What do you know about nets that make rectangular prisms?

2. Look at the solids below. Write the name of each.





a. _____ b. _____

3. How are these two solids alike? _____

4. How are they different? _____

Timed exercise: 2 minutes

Ask your home instructor to time you for 2 minutes. Do as many questions as you can in two minutes. Write how many you completed.

$2 \times 4 =$ _____ $7 \times 7 =$ _____ $5 \times 3 =$ _____ $0 \times 0 =$ _____

$7 \times 4 =$ _____ $6 \times 6 =$ _____ $9 \times 5 =$ _____ $1 \times 7 =$ _____

$2 \times 7 =$ _____ $7 \times 5 =$ _____ $3 \times 9 =$ _____ $5 \times 5 =$ _____

$3 \times 7 =$ _____

8	7	4	6	3	7
$\times 3$	$\times 6$	$\times 4$	$\times 2$	$\times 3$	$\times 0$

5	5	2	3	4	6
$\times 2$	$\times 5$	$\times 2$	$\times 4$	$\times 6$	$\times 3$

Number completed	
Number correct	

STUDENT'S CHECKLIST
MODULE 8: DAYS 1 TO 9

I can . . .	Put a check mark beside the things you can do.
show and count the faces, edges, and vertices of 3-D solids	
show and name the faces of a 3-D object with 2-D names	
describe and name pyramids and prisms by the shape of the base	
show that a rectangular solid has more than one net	

STUDENT'S COMMENTS

What I enjoyed most in this part of the module was _____

_____

_____

_____

_____

Something new I learned in this part of the module was _____

_____

_____

_____

HOME INSTRUCTOR'S CHECKLIST

Check **yes** or **not yet** for each statement.

Can the student do the following?

- identify and count faces, vertices, and edges of 3-D objects ❑ yes ❑ not yet
- identify and name faces of a 3-D object with appropriate 2-D names ❑ yes ❑ not yet
- describe and name pyramids and prisms by the shape of the base ❑ yes ❑ not yet
- demonstrate that a rectangular solid has more than one net ❑ yes ❑ not yet

HOME INSTRUCTOR'S COMMENTS